

ABSTRACT OF THE DISCLOSURE

Optical interconnects and methods for wavelength management are provided to interconnect optical rings while
5 overcoming color-blocking and allowing for wavelength re-use within optical rings. The optical inter-connects having a wavelength selective element such as a reconfigurable add/drop demultiplexer (ROADM) and a band-modulo demultiplexer having a
10 free spectral range (FSR) combined with a pool of wavelength conversion resources. More flexible interconnect systems can use a photonic cross-connect (PXC) to allow sharing of a pool of wavelength conversion resources among several optical rings.